



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,425	01/30/2006	Akiyoshi Yamazaki	SHIGA7,044APC	3636
20995 7590 09/05/2008 KNOBBE MARTENS OLSON & BEAR LLP 2040 MAIN STREET FOURTEENTH FLOOR IRVINE, CA 92614				
EXAMINER				
CHU, JOHN S Y				
ART UNIT		PAPER NUMBER		
1795				
NOTIFICATION DATE		DELIVERY MODE		
09/05/2008		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com
eOAPilot@kmob.com

Office Action Summary

Application No.

10/566,425

Applicant(s)

YAMAZAKI ET AL.

Examiner

JOHN S. CHU

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 11, 12, 24 and 25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 13-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/S5108)
Paper No(s)/Mail Date 6/24/08
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This Office action is in response to the election received June 4, 2008.

1. Claims 11, 12, 24 and 25 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on June 4, 2008.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-10 and 13-23 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-10 of U.S. Patent No. 7,402,372. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims to the current application would extend the grant to the U.S. Patent based on broader scope with comprising language. The use of additional dissolution inhibiting compounds which

are acid cleavable is known to used with the chemically amplified photoresists and would extend the grant to the U.S. Patent cited here.

4. Claims 1-10 and 13-23 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9 and 12-20 of copending Application No. 10/540,056. Although the conflicting claims are not identical, they are not patentably distinct from each other because the comprising language the claims to the current application would extend any grant to the copending application wherein the same resin component (A) is claimed with an acid generator component.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

2. Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-10 and 13-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over UETANI et al (6,627,381 B1) in view of NAKANISHI et al (2002/0164540), SUZUKI et al (6,899,989) and HATAKEYAMA et al (6,660,447).

The claimed invention is drawn to the following:

1. A positive resist composition, comprising a resin component (A), which contains acid dissociable, dissolution inhibiting groups and exhibits increased alkali
5 solubility under action of acid, and an acid generator component (B) that generates acid on exposure, wherein

said resin component (A) is a copolymer (A1) comprising a first structural unit (a1) derived from hydroxystyrene and a second structural unit (a2) derived from a (meth)acrylate ester having an alcoholic hydroxyl group, in which a portion of hydroxyl
0 groups of said structural units (a1) and alcoholic hydroxyl groups of said structural units (a2) have been protected with said acid dissociable, dissolution inhibiting groups, and
said acid generator component (B) comprises a diazomethane-based acid generator and an onium salt-based acid generator.

UETANI et al discloses a positive resist composition wherein the resin component is disclosed in Synthesis Example 2, in column 10, lines 23-39, to be a copolymer of 1-ethoxyethylated hydroxystyrene/3-hydroxy-1-adamantyl methacrylate. Here the resin is disclose to have a content of 15% of the 1-ethoxyethylate groups to the benzene rings, which implies 15% of the hydroxyl groups on the benzene rings are substituted, thus meeting the claimed limitations of the recited copolymer. The reference further discloses the acid generating agent, and amine compound as seen in the Abstract.

The reference to UETANI et al lacks the claimed third monomer unit in a working example, however clearly teaches the use of the third monomer unit in column 5, lines 45-47. The suitable monomers include styrene, acrylonitrile, methyl methacrylate and methyl acrylate.

The reference further lacks the disclosure for the claimed weight average molecular weight of 2,000 or more and 8,500 or less. Finally the reference lacks the recited polydispersity as recited in claim 7 of 2.0 or less. The Synthesis example 1 discloses the resin to have a polydispersity of 2.19.

NAKANISHI et al (2002/0164540) discloses a resin comprising a hydroxystyrene/ethyl-adamantyl methacrylate wherein the resin has a Mw of 8200 see Synthesis Example (2b) page 5 paragraph [0093] wherein the degree of dispersion is 1.68. The reference lacks a methacrylate ester having the claimed alcoholic hydroxyl group.

SUZUKI et al (6,899,989) and HATAKEYAMA et al (6,660,447) have been cited to disclose the incorporation of more than one photoacid generator in a photoresist composition, see claims 4 and 5 of SUZUKI et al and claim 11 of HATAKEYAMA et al.

It would have been *prima facie* obvious to one of ordinary skill in the art of positive photoresist compositions to use a copolymer having a weight average molecular weight between 5,000 – 8,500 in view of NAKANISHI et al and having a polydispersity of 1-3 based on the disclose degree of dispersion in NAKANISHI et al with more than one photoacid generator as suggested by SUZUKI et al and HATAKEYAMA et al and reasonably expect same or similar results as recited in UETANI et al for a photoresist composition which is excellent in sensitivity, resolution and dry etch resistance.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Chu whose telephone number is (571) 272-1329. The examiner can normally be reached on Monday - Friday from 9:30 am to 6:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Cynthia Kelly, can be reached on (571) 272-1526

The fax phone number for the USPTO is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PMR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/John S. Chu/
Primary Examiner, Art Unit 1795

J.Chu
September 1, 2008